

REMARKS

Summary of the Office Action

Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Keith et al. (U.S. Patent No. 4,785,349) (hereinafter “Keith”).

Claims 2, 8 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Keith in view of O’Sullivan (U.S. Patent No. 5,896,140) (hereinafter “O’Sullivan”).

Claims 3, 4, 10 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Keith in view of Mori (U.S. Patent No. 5,060,059) (hereinafter “Mori”).

Claims 5 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Keith in view of Mori, and further in view of O’Sullivan.

Claims 6, 7, 13 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Keith in view of Mori, and further in view of Hayashi et al. (U.S. Patent No. 5,305,122) (hereinafter “Hayashi”), and further in view of Heilveil et al. (U.S. Patent No. 4,639,890) (hereinafter “Heilveil”).

Summary of the Response to the Office Action

Applicants have amended claims 1, 3, 8 and 10.

Claims 1-14 are pending.

All Claims Define Allowable Subject Matter

Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Keith. Applicant respectfully traverses the rejection under 35 U.S.C. § 102(b). Applicant has amended claim 1 to particularly point out and distinctly claim embodiments of Applicant's invention. Claim 1 recites a digital image processing device for signal-processing a video input signal and supplying a video output signal to a display panel, including a signal processing unit to process the video input signal, a frame memory to store the processed video input signal from the signal processing unit, and a driver including a redundant pixel embedding circuit to embed data as redundant pixels into an image line read from the frame memory so as to produce the video output signal, the data corresponding to portions of the video input signal.

Thus, the digital image processing device according to an embodiment of Applicant's invention enables the embedding of redundant pixels in frame memory output data by using data corresponding to portions of the video input signal, thereby avoiding an increase in an amount of data to be stored in the frame memory. With this arrangement, the digital image processing device according to an embodiment of the invention is capable of complying with various types of drivers without using a large amount of frame memory and without increasing memory capacity.

In contrast, Keith discloses a digital video decoding system for encoding and combining a multi-channel sound signal S1, a color motion video signal S2 and an auxiliary data signal S3 to form a digital recording signal S4 (bit-stream that is recorded on a compact disc read-only memory (CD-ROM) disc 20 by means of a CD-ROM recorder 18. Applicant respectfully submits that Keith merely discloses a technique to code and combine signals S1, S2 and S3,

despite a specification of a display device. Whereas, the digital image processing device according to an embodiment of Applicant's invention is adapted to respective specifications of display devices, because it embeds data corresponding to portions of a video signal per se which are redundant because of the specification of a display device which is driven by the driver according to an embodiment of the invention.

Thus, Applicant respectfully submits that Keith does not teach or suggest at least the features of a driver including a redundant pixel embedding circuit to embed data as redundant pixels into an image line read from the frame memory so as to produce the video output signal, the data corresponding to portions of the video input signal, as recited in claim 1. Accordingly, it is requested that the rejection under 35 U.S.C. § 102(b), of claim 1, be withdrawn.

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Keith in view of O'Sullivan. Applicant respectfully traverses the rejection under 35 U.S.C. § 103(a), of claim 2. Claim 2 depends from claim 1, and recites the same combination of allowable features recited in claim 1, as well as additional features that define over the prior art. Applicant respectfully submits that O'Sullivan fails to overcome the above-described deficiencies of Keith. Accordingly, it is requested that the rejection under 35 U.S.C. § 103(a), of claim 2, be withdrawn.

Claims 3 and 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Keith in view of Mori. Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Keith in view of Mori, and further in view of O'Sullivan. Claims 6 and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Keith in view of Mori, and further in view of Hayashi, and

further in view of Heilveil. Applicant respectfully traverses the rejections under 35 U.S.C. § 103(a).

Applicant has amended claim 3 to particularly point out and distinctly claim embodiments of Applicant's invention. Claim 3 recites a digital image processing device for signal-processing a video input signal and supplying a video output signal to a display panel, including a signal processing unit, a frame memory, a serial-parallel converting circuit, a driver, and a parallel-serial converting circuit. The driver includes a redundant pixel embedding circuit to embed data as redundant pixels into an image line so as to output data, the embedded data corresponding to portions of the video input signal. For the reasons described above, Applicant respectfully submits that Keith does not teach or suggest at least the features of a driver that includes a redundant pixel embedding circuit to embed data as redundant pixels into an image line so as to output data, the embedded data corresponding to portions of the video input signal, as recited in claim 3. Claims 4-7 depend from claim 3, and recite the same combination of allowable features recited in claim 3, as well as additional features that define over the prior art. Applicant respectfully submits that Mori, O'Sullivan, Hayashi, and Heilveil fail to overcome the above-described deficiencies of Keith. Accordingly, it is requested that the rejections under 35 U.S.C. § 103(a), of claims 3-7, be withdrawn.

Claims 8 and 9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Keith in view of O'Sullivan. Applicant respectfully traverses the rejection under 35 U.S.C. § 103(a). Applicant has amended claim 8 to particularly point out and distinctly claim embodiments of Applicant's invention. Claim 8 recites a digital image processing device for signal-processing a video input signal and supplying a video output signal to a display panel, including a signal

processing means, a frame memory, and a driver. The driver includes redundant pixel embedding means to embed data as redundant pixels into an image line read from the frame memory so as to produce the video output signal, the data corresponding to portions of the video input signal. For the reasons described above, Applicant respectfully submits that Keith does not teach or suggest at least the features of a driver that includes redundant pixel embedding means to embed data as redundant pixels into an image line read from the frame memory so as to produce the video output signal, the data corresponding to portions of the video input signal, as recited in claim 8. Claim 9 depends from claim 8, and recites the same combination of allowable features recited in claim 8, as well as additional features that define over the prior art. Applicant respectfully submits that O'Sullivan fails to overcome the above-described deficiencies of Keith. Accordingly, it is requested that the rejection under 35 U.S.C. § 103(a), of claims 8 and 9, be withdrawn.

Claims 10 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Keith in view of Mori. Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Keith in view of Mori, and further in view of O'Sullivan. Claims 13 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Keith in view of Mori, and further in view of Hayashi, and further in view of Heilveil. Applicant respectfully traverses the rejections under 35 U.S.C. § 103(a).

Applicant has amended claim 10 to particularly point out and distinctly claim embodiments of Applicant's invention. Claim 10 recites a digital image processing device for signal-processing a video input signal and supplying a video output signal to a display panel, including a signal processing means, a frame memory, a serial-parallel converting means, a

driver, and a parallel-serial converting means. The driver includes a redundant pixel embedding means to embed data as redundant pixels into an image line so as to output data, the embedded data corresponding to portions of the video input signal. For the reasons described above, Applicant respectfully submits that Keith does not teach or suggest at least the features of a driver that includes a redundant pixel embedding means to embed data as redundant pixels into an image line so as to output data, the embedded data corresponding to portions of the video input signal, as recited in claim 10. Claims 11-14 depend from claim 10, and recite the same combination of allowable features recited in claim 10, as well as additional features that define over the prior art. Applicant respectfully submits that Mori, O'Sullivan, Hayashi, and Heilveil fail to overcome the above-described deficiencies of Keith. Accordingly, it is requested that the rejections under 35 U.S.C. § 103(a), of claims 10-14, be withdrawn.

Applicant respectfully submits that all pending claims (*i.e.* claims 1-14) are in condition for allowance.

CONCLUSION

In view of the foregoing, Applicant submits that the pending claims are in condition for allowance, and respectfully requests reconsideration and timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative to expedite prosecution. A favorable action is awaited.


EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0573. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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Dated: October 12, 2005

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